generating a stream of data bits at a selected frequency, each bit of said stream of data bits having one portion at a first voltage level and another portion at a second voltage level;

generating a stream of clocking pulses at a second frequency, which second frequency is a multiple of said selected frequency;

coding said stream of data bits by

setting said one portion of each bit to a reference voltage level;

continuously switching said another portion of each bit between said reference voltage level and another voltage level different than said reference voltage level at said second frequency;

transmitting said coded data stream ~~form~~ from a first location to another location;

receiving said coded data stream and providing said coded data stream to a delay circuit and a combining circuit;

delaying said coded data stream at said delay circuitry for a period of time substantially equal to one-half cycle of said second clocking frequency and providing said delayed coded data stream to said combining circuit; and

combining said coded data stream and said delayed coded data stream to recover said stream of data bits at said selected frequency.

2. (Original) The method of claim 1 wherein said generated stream of data bits is a Manchester coded data stream.

3. (Original) The method of claim 2 wherein said second frequency is eight (8x) times said selected frequency.

4. (Original)   The method of claim 1 wherein said step of generating a stream of data bits comprises the steps of:

provides a stream of NRZ coded data bits; and

converting said stream of NRZ coded data bits to a Manchester coded stream of data bits.

5. (Original)   The method of claim 4 wherein said stream of NRZ coded data bits are provided at a rate of 25.92 MHz.

6. (Original)   The method of claim 1 and further comprising the steps of passing said recovered stream of data bits through a filter to smooth out irregularities in said data bits resulting from said delay period not being equal to exactly one-half cycle of said second frequency.

7. (Original)   The method of claim 1 wherein said transmitting step comprises the steps of:

modulating a selected wavelength of light with said coded data stream; and

transmitting said modulated light through an optical fiber between said first location and said another location.

8. (Original)   The method of claim 7 wherein said selected wavelength of light is approximately 1310 nanometers.

9. (Original)   The method of claim 7 wherein data is also transmitted from said another location to said first location.

10-13 (Cancelled)

14. (Original) In a data transmission system wherein a stream of data bits having a selected frequency and a first portion at one voltage level and a second portion at a second voltage level is modified for transmission between a first location and another location by setting said first portion of said data bits to a reference voltage level and continuously switching said second portion between said reference voltage level and another voltage level different than said reference voltage level at a second clocking frequency which is a multiple of said selected frequency, a method of recovering said stream of data bits without establishing timing or phase lock comprising the steps of:

    receiving said modified stream of data bits and providing said modified stream to a delay circuit and a combining circuit;

    delaying said modified stream of data bits of said delay circuit for a period of time substantially equal to one-half cycle of said second clocking frequency and providing said delayed modified stream of data bits to said combining circuit; and

    combining said modified stream of data bits and said delayed modified stream of data bits to recover said stream of data bits having said selected frequency.

15. (Original) The method of claim 14 when said stream of data bits having a selected frequency are Manchester coded data bits.

16. (Original) The method of claim 15 wherein said second frequency is eight (8x) times said selected frequency.

17. (Original) The method of claim 15 and further comprising the step of passing said recovered stream of data bits through a filter to smooth out irregularities in said recovered data bits resulting from said delay period not being equal to exactly one-half cycle of said second frequency.